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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,578	11/16/2000	Kazuhiko Takaishi	3408.6494	3276

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GREER, BURNS & CRAIN
300 S WACKER DR
25TH FLOOR
CHICAGO, IL 60606

EXAMINER

WONG, KIN C

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/713,578

Applicant(s)

TAKAISHI ET AL.

Examiner

K. Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-12 and 14-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/1/04 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims (1-2, 4-12 and 14-20) are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi (5859742) in view of Ottesen et al (4894599).

Regarding claim 11: Takaishi discloses a head positioning control device for a storage device for driving an actuator to position a head at a specified location on a disk and including:

a detection means (see col. 1, lines 50-55 and col. 15, lines 35-44 where Takaishi describes the acquiring of the present or current head position which requires a position detection) for detecting a present position of the head; and

a control means (see col. 3, line 59 to col. 6, line 3 and col. 6, lines 22-57 of Takaishi) that performs coarse control without integral compensation or bias

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compensation and then performs settling control of the actuator based on the detected position;

wherein the control means performs settling control with integral compensation or bias compensation by estimating the position of the head for the next sample; and

estimating the initial bias value from the difference between the detected position and the estimated position (see col. 6, lines 4-64 and col. 12, lines 2-34 of Takaishi),

wherein the control means performs settling control by observer control (see col. 19, line 59 to col. 20, line 44 of Takaishi).

Although Takaishi describes the settling control or the setting of the head settling control in col. 22, line 52 to col. 23, line 2-42, Takaishi fails to mention the estimated initial values for the settling mode at the beginning of the settling cycle. Ottesen is relied on for the teaching of the estimated initial values for the settling mode at the beginning of the settling cycle (see col. 3, line 14 to col. 4, line 64 of Ottesen).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the settling mode of Takaishi with the estimated initial setting values for the settling mode as taught by Ottesen. The rationale is as follows: one of ordinary skill in the art would have been motivated to provide a zero error in the shortest possible time for settling down the system or the head on the location of the track as suggested in col. 1, lines 46-61 of Ottesen.

Regarding claim 12: Takaishi teaches that wherein the control means supplies at least at a target trajectory or feed-forward current, that is proportional to the initial position or initial velocity at the start of the settling, to a control system that performs the

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settling control (in col. 6, lines 33-37, col. 22, lines 52-62 and col. 24, lines 15-47 of Takaishi).

Regarding claim 14: Takaishi teaches that wherein the coarse control is velocity (or speed) control of the head in (col. 28, line 46 to col. 29, line 22 of Takaishi).

Regarding claim 15-20: claims (15-20) have limitations similar to those treated in the above rejections, and are met by the references as discussed above. Claim 15 however also recites the following limitations of feedback control system, which includes long and short distance (or seek) that is met in col. 19, lines 59-65 and col. 22, line 1 to col. 23, line 3 of Takaishi.

Regarding method claims 1-2 and 4: the method claims (1-2 and 4) are drawn to the method of using the corresponding apparatus claimed in claims (11-12 and 14). Therefore method claims (1-2 and 4) correspond to apparatus claims (11-12 and 14) and are rejected for the same reasons of obviousness as used above.

Regarding method claims 5-10: method claims (5-10) are drawn to the method of using the corresponding apparatus claimed in claims (15-20) and claims (11-12 and 14). Therefore method claims (5-10) correspond to apparatus claims (15-20) and claims (11-12 and 14), and, are rejected for the same reasons of obviousness as used above.

Response to Arguments

Applicant's arguments filed 1/27/04 have been fully considered but they are not fully persuasive.

Regarding to the remarks on page 10 of the remarks filed on 1/27/04: applicants asserted that Takashi does not teach a settling control. Takaishi depicts the settling

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mode in figure 1 and a settling control algorithm in figure 14, and, see the associated descriptions for details.

Regarding to the remarks on page 10 of the remarks filed on 8/15/03: applicants asserted that Takashi does not teach the settling control compensation at the start of the settling (or after the coarse control (or movement)). Takashi discloses that the settling mode, which is at the start of the settling control cycle in col. 22, lines 52-62.

Regarding to the remarks on page 12 and 13: Figure 1 of Takaishi and figure 1 of Ottesen are in accordance with the definition to the applicant's definitions for seek coarse and settling movements.

Therefore, the examiner believes the applicant's assertions are not fully correct. Furthermore, the arguments are mooted in view of the new Office Action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (703) 305-7772.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kw

21 May 04



DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600